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<120> PT049P1

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<141> 2001-08-30

<150> PCT/US01/06256
<151> 2001-02-28

<150> 60/186,350
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<211> 1492
<212> DNA
<213> Homo sapiens

<400> 7
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<210> 8
<211> 948
<212> DNA
<213> Homo sapiens

<400> 8
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<210> 9

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<211> 966
<212> DNA
<213> Homo sapiens

<400> 9
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<210> 10
<211> 665
<212> DNA
<213> Homo sapiens

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<210> 11
<211> 4041
<212> DNA
<213> Homo sapiens

<400> 11
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<210> 12
<211> 3288
<212> DNA
<213> Homo sapiens

<400> 12

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<210> 13
<211> 1771
<212> DNA
<213> Homo sapiens

<400> 13
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cagcttagtg ctccctgggg gtggttaagt tcaaggactt cagggtccga ttgaccttgg    1380
gctgaatctt gacctggggc tgtaagatgc tcggtcagga ccttaacttt tccaaggctc    1440
ggtgtctaca tctggaaaat ggggataaac acagttcctc cctgctggga ttattgtaag    1500
gcttgaatga gatgataaat acaacatctg acttgcgact ggacggtagc aaagggttta    1560
gttaatatta taataagtag aatggaacag cattagattc tcacacaggg tcactatgtt    1620
gttttctccc attctacccc tgcatattac cctgaagcac ccccaagcct ctccctccag    1680
ccaataggca gctttcttaa ctatcctaac aagccttgga ccaaatggaa ataaagcttt    1740
ttgatgcaaa aaaaaaaaaa aaaaaaaaa a                                    1771
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<210> 14
<211> 3625
<212> DNA
<213> Homo sapiens

<400> 14
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tacgactcac tatagggcga attgggtacc gggcccccc tcgtgccggt tgtgcttctt       60
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gatctaattc tagacctta gaaagcaaaa gatacggatc aaaaaagaaa agacatgaaa      180
aacatactat tcctttggta gtccagaaag aaacatcatc ttcagataat aagaaacaga     240
tacctaatga agcttctgct agaagtgaaa gagacacatc agacctagag caaaactggt     300
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cattgcaaga tcattataga atgtattcac ccataatata ccaagccctc tgtgagcacg     360
tgcagactca gatgtcactg atgaatgact tgacttcaaa gaacatccct aatggaattc     420
ctgctgtacc atgccatgct ccctctcatt ctgaatctca ggcaactcct cattctagtt     480
atggcttatg tacctccacc ccagtctggt cacttcagcg gccaccctgc cctccaaagg     540
ttcattctga agttcaaact gatggcaaca gtcagtttgc atcacaaggt aaaacagttt     600
ctgcaacctg tactgatgtt ctacggaatt catttaatac cagtcctgga gttccatgta     660
gcctgcccaa aactgacata tcagctattc caacattgca gcaactgggc cttgttaatg     720
gaattctgcc acaacaagga attcataagg aaacagacct actaaaatgt attcaaacat     780
atttgtctct ttttcgatct catggaaaag aaacgcatct ggacagtcag acacaccgaa     840
gccctactca gtcacaacca gctttcttgg ccactaatga agaaaaatgt gccagagagc     900
aaattagaga ggccacaagt gaaagaaagg atttaaacat acatgtgcga gatacaaaaa     960
cagtgaagga tgtacagaag gcaaaaaatg tgaacaagac agctgaaaaa gttagaatta    1020
taaaatattt gttgggagag ctcaaggccc tggtagcaga acaagaggat tcagaaattc    1080
agaggttgat tacagaaatg gaggcatgta tatctgtact tccaacagta agtggaaaca    1140
cagatattca agttgagata gcactggcca tgcaaccatt aagaagtgag aatgctcagt    1200
tacgaaggca gttgagaatt ttgaaccagc aactcagaga acaacagaaa actcaaaaac    1260
catctggtgc tgtggattgc aaccttgaat tgttttctct tcagtcattg aatatgtcac    1320
tgcaaaatca attggaggag tcactaaaga gccaggaatt actgcagagt aaaaatgaag    1380
agctgttaaa agtgattgaa aatcagaaag atgaaaacaa aaaatttagt agtatattta    1440
aagacaaaga tcaaactata cttgaaaata aacagcaata tgatattgag ataacaagaa    1500
taaaaattga attggaggaa gccctagtca atgtgaaaag ctcccagttt aagttagaaa    1560
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ctcgactaag agaattaacc agaactttac agactagcat ggcaaagctt ctctccgatc    1680
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tcaaaacagg attctgatga agggagtgaa actatggctt aatagaaga tgagcataat    2040
ttggataata caatttacat tccttttgct agaagcactc ctgaaaagaa atcaccactt    2100
tctaagagac tatcccctca gccacaaata agagcagcta caacacagct agtcagcaac    2160
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gactgataaa gaagtgctaa cagataagct atagttgggg aaatttgtgg gttttttttta    3300
aataagaaat gtttattttt gtccttatat ttaaacatga tggaatttgt aaatcttggc    3360
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<210> 15
<211> 1454
<212> DNA
<213> Homo sapiens

<400> 15
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atactactga acactttgca atcataaaga aaggatgaga acgttccata agtttaaata       180
gaaagaattc tatgatgtgt taaaataaaa caaggtacac aacagtgtgt aatgtgtgct       240
actatttgct taagaagatc gctatataca tgtttgcttg taaatgccta gaagagttct       300
agtaagatac aaaaggatct ggtaacttta gctgtctctg gaatgccaga ggaatgcctg       360
ggggacagga gtaggaggga gaccttcttg tgacattatt ttgcaaaact tactgagttt       420
tgaatcatgt gactatgtta tatcttaaaa ccatttaact ctaaaaattt taagccaaaa       480
aataaatata caaatatagt taaatagcat ttataggacg ccattagttt ggacagagct       540
actgcattag gcttaataga tcaaatcaaa atggagtcac tcatgctgaa gttctagatt       600
gccgtgctga aactaagctg tttatctgag cttcctagaa atcaggacaa agagagagat       660
aacagccaaa tccccaaaca agccagtttt agccggcata ataaagaagt cccctctgct       720
ttaatcttta caagagaagt aactatgaaa tgaccaatcc atttttgtcc tctgtttcta       780
ccttcttcag cccttttctg cctaaagcca acttcctctg ctcagctcat cggaacgctc       840
attctgtttt acggaaggag gtgttatgca attctaaaat tgcaagtaaa agtcagctag       900
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aaaaaaaaaa aaaa                                                        1454


<210> 16
<211> 42
<212> PRT
<213> Homo sapiens

<400> 16
Met Lys Ile Cys Leu Asp Leu Phe Ser Phe Ile Ser Leu Gly Asn Leu
1               5                   10                  15

Met Ile Pro Asn Ile Phe Cys Leu His Phe Val Gly Val Gln Ser Pro
            20                  25                  30

Arg Tyr Arg Tyr Phe Met Ser Phe Leu Ser
        35                  40


<210> 17
<211> 331
<212> PRT
<213> Homo sapiens

<400> 17
Met Val Asn Gly Gly Leu Thr Ser Gln Thr Lys Glu Asn Gly Leu Ser
1               5                   10                  15
```

Thr Ser Gln Gln Val Pro Ala Gln Arg Lys Lys Leu Leu Arg Ala Pro
            20   25   30

Thr Leu Ala Glu Leu Asp Ser Ser Glu Ser Glu Glu Glu Thr Leu His
        35   40   45

Lys Ser Thr Ser Ser Ser Ser Val Ser Pro Ser Phe Pro Glu Glu Pro
    50   55   60

Val Leu Glu Ala Val Ser Thr Arg Lys Lys Pro Pro Lys Phe Leu Pro
65   70   75   80

Ile Ser Ser Thr Pro Gln Pro Glu Arg Arg Gln Pro Pro Gln Arg Arg
                85   90   95

His Ser Ile Glu Lys Glu Thr Pro Thr Asn Val Arg Gln Phe Leu Pro
            100   105   110

Pro Ser Arg Gln Ser Ser Arg Ser Leu Glu Glu Phe Cys Tyr Pro Val
        115   120   125

Glu Cys Leu Ala Leu Thr Val Glu Glu Val Met His Ile Arg Gln Val
    130   135   140

Leu Val Lys Ala Glu Leu Glu Lys Tyr Gln Gln Tyr Lys Asp Ile Tyr
145   150   155   160

Thr Ala Leu Lys Lys Gly Lys Leu Cys Phe Cys Cys Arg Thr Arg Arg
            165   170   175

Phe Ser Phe Phe Thr Trp Ser Tyr Thr Cys Gln Phe Cys Lys Arg Pro
        180   185   190

Val Cys Ser Gln Cys Cys Lys Lys Met Arg Leu Pro Ser Lys Pro Tyr
    195   200   205

Ser Thr Leu Pro Ile Phe Ser Leu Gly Pro Ser Ala Leu Gln Arg Gly
    210   215   220

Glu Ser Ser Met Arg Ser Glu Lys Pro Ser Thr Ala His His Arg Pro
225   230   235   240

Leu Arg Ser Ile Ala Arg Phe Ser Ser Lys Ser Lys Ser Met Asp Lys
            245   250   255

Ser Asp Glu Glu Leu Gln Phe Pro Lys Glu Leu Met Glu Asp Trp Ser
        260   265   270

Thr Met Glu Val Cys Val Asp Cys Lys Lys Phe Ile Ser Glu Ile Ile
        275   280   285

Ser Ser Ser Arg Arg Ser Leu Val Leu Ala Asn Lys Arg Ala Arg Leu
    290   295   300

Lys Arg Lys Thr Gln Ser Phe Tyr Met Ser Ser Pro Gly Pro Ser Glu
305   310   315   320

Tyr Cys Pro Ser Glu Arg Thr Ile Ser Glu Ile

325   330

<210> 18
<211> 425
<212> PRT
<213> Homo sapiens

<400> 18
Met Ser Gly Ala Gln Ala Lys Ala Ala Val Ile Val Gly Cys Ile Gly
  1   5   10   15

Val Ile Ala Glu Val Asp Lys Ala Ala Leu Glu Lys Arg His Arg Gln
              20   25   30

Gly Trp Leu Met Glu Val Thr Asp Ser Leu Asp Arg Cys Ile Gln Arg
          35   40   45

Leu Arg Glu Ala Arg Lys Lys Lys Glu Val Leu Ser Leu Gly Tyr His
      50   55   60

Gly Asn Val Val Ala Leu Trp Glu Arg Leu Val His Glu Leu Asp Thr
 65   70   75   80

Thr Gly Glu Cys Leu Val Asp Leu Gly Ser Asp Gln Thr Ser Cys His
              85   90   95

Asn Pro Phe Asn Gly Gly Tyr Tyr Pro Val Gln Leu Ser Phe Thr Glu
          100   105   110

Ala Gln Ser Leu Met Ala Ser Asn Pro Ala Val Phe Lys Asp Leu Val
          115   120   125

Gln Glu Ser Leu Arg Arg Gln Val Ser Ala Ile Asn Arg Leu Ala Glu
      130   135   140

Glu Lys Phe Phe Phe Trp Asp Tyr Gly Asn Ala Phe Leu Leu Glu Ala
145   150   155   160

Gln Arg Ala Gly Ala Asp Val Glu Lys Lys Gly Ala Gly Arg Thr Glu
              165   170   175

Phe Arg Tyr Pro Ser Tyr Val Gln His Ile Met Gly Asp Ile Phe Ser
          180   185   190

Gln Gly Phe Gly Pro Phe Arg Trp Val Cys Thr Ser Gly Asp Pro Gln
          195   200   205

Asp Leu Ala Val Thr Asp Glu Leu Ala Thr Ser Val Leu Glu Glu Ala
      210   215   220

Ile Ala Asp Gly Val Lys Val Ser Val Lys Leu Gln Tyr Met Asp Asn
225   230   235   240

Ile Arg Trp Ile Arg Glu Ala Ala Arg His Arg Leu Val Val Gly Ser
              245   250   255

Gln Ala Arg Ile Leu Tyr Ser Asp Gln Lys Gly Arg Val Ala Ile Ala

```
                 260                        265                        270

Val Ala Ile Asn Gln Ala Ile Ala Cys Arg Arg Ile Lys Ala Pro Val
        275                280                285

Val Leu Ser Arg Asp His His Asp Val Ser Gly Thr Asp Ser Pro Phe
        290                295                300

Arg Glu Thr Ser Asn Ile Tyr Asp Gly Ser Ala Phe Cys Ala Asp Met
305                310                315                320

Ala Val Gln Asn Phe Val Gly Asp Ala Cys Arg Gly Ala Thr Trp Val
                325                330                335

Ala Leu His Asn Gly Gly Gly Val Gly Trp Gly Glu Val Ile Asn Gly
                340                345                350

Gly Phe Gly Leu Val Leu Asp Gly Thr Pro Glu Ala Glu Gly Arg Ala
        355                360                365

Arg Leu Met Leu Ser Trp Asp Val Ser Asn Gly Val Ala Arg Arg Cys
        370                375                380

Trp Ser Gly Asn Gln Lys Ala Tyr Glu Ile Ile Cys Gln Thr Met Gln
385                390                395                400

Glu Asn Ser Thr Leu Val Val Thr Leu Pro His Lys Val Glu Asp Glu
                405                410                415

Arg Val Leu Gln Gln Ala Leu Gln Leu
                420                425
```

<210> 19
<211> 944
<212> PRT
<213> Homo sapiens

<400> 19

```
Met Thr Val Ser Gly Pro Gly Thr Pro Glu Pro Arg Pro Ala Thr Pro
  1           5                10                15

Gly Ala Ser Ser Val Glu Gln Leu Arg Lys Glu Gly Asn Glu Leu Phe
            20                25                30

Lys Cys Gly Asp Tyr Gly Gly Ala Leu Ala Ala Tyr Thr Gln Ala Leu
            35                40                45

Gly Leu Asp Ala Thr Pro Gln Asp Gln Ala Val Leu His Arg Asn Arg
     50                55                60

Ala Ala Cys His Leu Lys Leu Glu Asp Tyr Asp Lys Ala Glu Thr Glu
 65                70                75                80

Ala Ser Lys Ala Ile Glu Lys Asp Gly Gly Asp Val Lys Ala Leu Tyr
                85                90                95

Arg Arg Ser Gln Ala Leu Glu Lys Leu Gly Arg Leu Asp Gln Ala Val
```

        100   105   110

Leu Asp Leu Gln Arg Cys Val Ser Leu Glu Pro Lys Asn Lys Val Phe
     115   120   125

Gln Glu Ala Leu Arg Asn Ile Gly Gly Gln Ile Gln Glu Lys Val Arg
     130   135   140

Tyr Met Ser Ser Thr Asp Ala Lys Val Glu Gln Met Phe Gln Ile Leu
145   150   155   160

Leu Asp Pro Glu Glu Lys Gly Thr Glu Lys Lys Gln Lys Ala Ser Gln
         165   170   175

Asn Leu Val Val Leu Ala Arg Glu Asp Ala Gly Ala Glu Lys Ile Phe
         180   185   190

Arg Ser Asn Gly Val Gln Leu Leu Gln Arg Leu Leu Asp Met Gly Glu
         195   200   205

Thr Asp Leu Met Leu Ala Ala Leu Arg Thr Leu Val Gly Ile Cys Ser
     210   215   220

Glu His Gln Ser Arg Thr Val Ala Thr Leu Ser Ile Leu Gly Thr Arg
225   230   235   240

Arg Val Val Ser Ile Leu Gly Val Glu Ser Gln Ala Val Ser Leu Ala
         245   250   255

Ala Cys His Leu Leu Gln Val Met Phe Asp Ala Leu Lys Glu Gly Val
         260   265   270

Lys Lys Gly Phe Arg Gly Lys Glu Gly Ala Ile Ile Val Asp Pro Ala
         275   280   285

Arg Glu Leu Lys Val Leu Ile Ser Asn Leu Leu Asp Leu Leu Thr Glu
     290   295   300

Val Gly Val Ser Gly Gln Gly Arg Asp Asn Ala Leu Thr Leu Leu Ile
305   310   315   320

Lys Ala Val Pro Arg Lys Ser Leu Lys Asp Pro Asn Asn Ser Leu Thr
         325   330   335

Leu Trp Val Ile Asp Gln Gly Leu Lys Lys Ile Leu Glu Val Gly Gly
         340   345   350

Ser Leu Gln Asp Pro Pro Gly Glu Leu Ala Val Thr Ala Asn Ser Arg
         355   360   365

Met Ser Ala Ser Ile Leu Leu Ser Lys Leu Phe Asp Asp Leu Lys Cys
         370   375   380

Asp Ala Glu Arg Glu Asn Phe His Arg Leu Cys Glu Asn Tyr Ile Lys
385   390   395   400

Ser Trp Phe Glu Gly Gln Gly Leu Ala Gly Lys Leu Arg Ala Ile Gln
         405   410   415

```
Thr Val Ser Cys Leu Leu Gln Gly Pro Cys Asp Ala Gly Asn Arg Ala
            420                 425             430

Leu Glu Leu Ser Gly Val Met Glu Ser Val Ile Ala Leu Cys Ala Ser
            435                 440             445

Glu Gln Glu Glu Glu Gln Leu Val Ala Val Glu Ala Leu Ile His Ala
    450                 455                 460

Ala Gly Lys Ala Lys Arg Ala Ser Phe Ile Thr Ala Asn Gly Val Ser
465                 470                 475                 480

Leu Leu Lys Asp Leu Tyr Lys Cys Ser Glu Lys Asp Ser Ile Arg Ile
            485                 490                 495

Arg Ala Leu Val Gly Leu Cys Lys Leu Gly Ser Ala Gly Gly Thr Asp
            500                 505                 510

Phe Ser Met Lys Gln Phe Ala Glu Gly Ser Thr Leu Lys Leu Ala Lys
        515                 520                 525

Gln Cys Arg Lys Trp Leu Cys Asn Asp Gln Ile Asp Ala Gly Thr Arg
    530                 535                 540

Arg Trp Ala Val Glu Gly Leu Ala Tyr Leu Thr Phe Asp Ala Asp Val
545                 550                 555                 560

Lys Glu Glu Phe Val Glu Asp Ala Ala Ala Leu Lys Ala Leu Phe Gln
            565                 570                 575

Leu Ser Arg Leu Glu Glu Arg Ser Val Leu Phe Ala Val Ala Ser Ala
        580                 585                 590

Leu Val Asn Cys Thr Asn Ser Tyr Asp Tyr Glu Glu Pro Asp Pro Lys
        595                 600                 605

Met Val Glu Leu Ala Lys Tyr Ala Lys Gln His Val Pro Glu Gln His
    610                 615                 620

Pro Lys Asp Lys Pro Ser Phe Val Arg Ala Arg Val Lys Lys Leu Leu
625                 630                 635                 640

Ala Ala Gly Val Val Ser Ala Met Val Cys Met Val Lys Thr Glu Ser
            645                 650                 655

Pro Val Leu Thr Ser Ser Cys Arg Glu Leu Leu Ser Arg Val Phe Leu
        660                 665                 670

Ala Leu Val Glu Glu Val Glu Asp Arg Gly Thr Val Val Ala Gln Gly
        675                 680                 685

Gly Gly Arg Ala Leu Ile Pro Leu Ala Leu Glu Gly Thr Asp Val Gly
    690                 695                 700

Gln Thr Lys Ala Ala Gln Ala Leu Ala Lys Leu Thr Ile Thr Ser Asn
705                 710                 715                 720
```

Pro Glu Met Thr Phe Pro Gly Glu Arg Ile Tyr Glu Val Val Arg Pro
                725   730   735

Leu Val Ser Leu Leu His Leu Asn Cys Ser Gly Leu Gln Asn Phe Glu
            740   745   750

Ala Leu Met Ala Leu Thr Asn Leu Ala Gly Ile Ser Glu Arg Leu Arg
            755   760   765

Gln Lys Ile Leu Lys Glu Lys Ala Val Pro Met Ile Glu Gly Tyr Met
        770   775   780

Phe Glu Glu His Glu Met Ile Arg Arg Ala Ala Thr Glu Cys Met Cys
785   790   795   800

Asn Leu Ala Met Ser Lys Glu Val Gln Asp Leu Phe Glu Ala Gln Gly
                805   810   815

Asn Asp Arg Leu Lys Leu Leu Val Leu Tyr Ser Gly Glu Asp Asp Glu
            820   825   830

Leu Leu Gln Arg Ala Ala Ala Gly Gly Leu Ala Met Leu Thr Ser Met
        835   840   845

Arg Pro Thr Leu Cys Ser Arg Ile Pro Gln Val Thr Thr His Trp Leu
    850   855   860

Glu Ile Leu Gln Ala Leu Leu Leu Ser Ser Asn Gln Glu Leu Gln His
865   870   875   880

Arg Gly Ala Val Val Val Leu Asn Met Val Glu Ala Ser Arg Glu Ile
            885   890   895

Ala Ser Thr Leu Met Glu Ser Glu Met Met Glu Ile Leu Ser Val Leu
        900   905   910

Ala Lys Gly Asp His Ser Pro Val Thr Arg Ala Ala Ala Ala Cys Leu
        915   920   925

Asp Lys Ala Val Glu Tyr Gly Leu Ile Gln Pro Asn Gln Asp Gly Glu
    930   935   940

<210> 20
<211> 449
<212> PRT
<213> Homo sapiens

<400> 20
Met Arg Glu Ser Gly Trp Lys Leu Ile Asp Pro Ile Ser Asp Phe Gly
  1   5   10   15

Arg Met Gly Ile Pro Asn Arg Asn Trp Thr Ile Thr Asp Ala Asn Arg
            20   25   30

```
Asn Tyr Glu Ile Cys Ser Thr Tyr Pro Pro Glu Ile Val Val Pro Lys
        35                  40              45

Ser Val Thr Leu Gly Thr Val Val Gly Ser Ser Lys Phe Arg Ser Lys
        50                  55              60

Glu Arg Val Pro Val Leu Ser Tyr Leu Tyr Lys Glu Asn Asn Ala Ala
65                      70              75              80

Ile Cys Arg Cys Ser Gln Pro Leu Ser Gly Phe Tyr Thr Arg Cys Val
                85                  90                  95

Asp Asp Glu Leu Leu Leu Glu Ala Ile Ser Gln Thr Asn Pro Gly Ser
            100                 105             110

Gln Phe Met Tyr Val Val Asp Thr Arg Pro Lys Ile Trp His Phe Leu
        115                 120             125

Val Leu Ile Met Arg Ile Val Leu Gln Leu Ala Lys Met Asn Leu Met
        130                 135             140

Asp Ile Thr Lys Ile Phe Ser Leu Leu Gln Pro Asp Lys Glu Glu Glu
145                 150             155             160

Asp Thr Asp Thr Glu Glu Lys Gln Ala Leu Asn Gln Ala Val Tyr Asp
            165                 170             175

Asn Asp Ser Tyr Thr Leu Asp Gln Leu Leu Arg Gln Glu Arg Tyr Lys
            180                 185             190

Arg Phe Ile Asn Ser Arg Ser Gly Trp Gly Val Pro Gly Thr Pro Leu
        195                 200             205

Arg Leu Ala Ala Ser Tyr Gly His Leu Ser Cys Leu Gln Val Leu Leu
        210                 215             220

Ala His Gly Ala Asp Val Asp Ser Leu Asp Val Lys Ala Gln Thr Pro
225                 230             235             240

Leu Phe Thr Ala Val Ser His Gly His Leu Asp Cys Val Arg Val Leu
                245             250             255

Leu Glu Ala Gly Ala Ser Pro Gly Gly Ser Ile Tyr Asn Asn Cys Ser
            260             265             270

Pro Val Leu Thr Ala Ala Arg Asp Gly Ala Val Ala Ile Leu Gln Glu
        275             280             285

Leu Leu Asp His Gly Ala Glu Ala Asn Val Lys Ala Lys Leu Pro Val
        290             295             300

Trp Ala Ser Asn Ile Ala Ser Cys Ser Gly Pro Leu Tyr Leu Ala Ala
305             310             315             320

Val Tyr Gly His Leu Asp Cys Phe Arg Leu Leu Leu Leu His Gly Ala
            325             330             335

Asp Pro Asp Tyr Asn Cys Thr Asp Gln Gly Leu Leu Ala Arg Val Pro
```

```
                340                         345                         350

    Arg Pro Arg Thr Leu Leu Glu Ile Cys Leu His His Asn Cys Glu Pro
            355                 360                 365

    Glu Tyr Ile Gln Leu Leu Ile Asp Phe Gly Ala Asn Ile Tyr Leu Pro
        370                 375                 380

    Ser Leu Ser Leu Asp Leu Thr Ser Gln Asp Asp Lys Gly Ile Ala Leu
    385                 390                 395                     400

    Leu Leu Gln Ala Arg Ala Thr Pro Arg Ser Leu Leu Ser Gln Val Arg
                    405                 410                 415

    Leu Val Val Arg Arg Ala Leu Cys Gln Ala Gly Gln Pro Gln Ala Ile
                420                 425                 430

    Asn Gln Leu Asp Ile Pro Pro Met Leu Ile Ser Tyr Leu Lys His Gln
            435                 440                 445

    Leu
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<210> 21
<211> 199
<212> PRT
<213> Homo sapiens

<400> 21

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    Met Trp Val Trp Pro Ser Thr Trp Ala Thr Val Met Gly Ser Pro Lys
    1               5                   10                  15

    Ala Pro Tyr Leu Gln Ala Ala Ser Val Val Ser Leu Ser Trp Phe Phe
                20                  25                  30

    Thr Phe Gly Val Ala Ile Phe Ser Arg Ser Pro Trp Ala Cys Ser Ala
                35                  40                  45

    Asp Ile Pro Ala Phe Ser Ala Ala Ala Arg Met Leu Cys Gly Ser Val
        50                  55                  60

    Met Ser Ser Phe Trp Glu Glu Glu Lys Thr Ala Gly Arg Arg Cys Gly
    65              70                  75                      80

    Glu Arg Gly Val Thr Gly Arg Thr Val Asp Pro Pro Gly Gly Gly Arg
                    85                  90                  95

    Ile Met Thr Leu Lys Thr Cys Leu Gly Lys Val Arg Lys Ser Ser Lys
                100                 105                 110

    Val Leu Pro Glu Asp Ser Gln Ser Pro Thr Leu Thr Leu Asp Gln Thr
                115                 120                 125

    Arg Ile His Ser Ser Arg Asp Ala Phe Ser Ser Ile Ser Gly Cys Ser
        130                 135                 140

    Lys Phe Thr Ala Val Arg Lys Arg Met Ala Asp Lys Leu Pro Val Gly
```

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       145                    150                    155                    160
```

Gln Arg His Pro Glu Ala Gly Leu Leu Leu Leu Leu Ser Trp Trp Arg
                165   170   175

Thr Ser Ser Ser Leu Leu Leu Thr Ser Pro Arg Ala Pro Pro Pro Ser
                180   185   190

Ala Ser His Pro Arg Phe Pro
         195

<210> 22
<211> 141
<212> PRT
<213> Homo sapiens

<400> 22
Met Lys Val Lys Ser Leu Glu Asp Ala Glu Lys Asn Pro Lys Ala Ile
  1   5   10   15

Asp Thr Trp Ile Glu Ser Ile Ser Glu Leu His Arg Ser Lys Pro Pro
            20   25   30

Ala Thr Val His Tyr Thr Arg Pro Met Pro Asp Ile Asp Thr Leu Met
         35   40   45

Gln Glu Trp Ser Pro Glu Phe Glu Glu Leu Leu Gly Lys Val Ser Leu
      50   55   60

Pro Thr Ala Glu Ile Asp Cys Ser Leu Ala Glu Tyr Ile Asp Met Ile
 65   70   75   80

Cys Ala Ile Leu Asp Ile Pro Val Tyr Lys Ser Arg Ile Gln Ser Leu
                85   90   95

His Leu Leu Phe Ser Leu Tyr Ser Glu Phe Lys Asn Ser Gln His Phe
            100   105   110

Lys Ala Leu Ala Glu Gly Lys Lys Ala Phe Thr Pro Ser Ser Asn Ser
         115   120   125

Thr Ser Gln Ala Gly Asp Met Glu Thr Leu Thr Phe Ser
      130   135   140

<210> 23
<211> 234
<212> PRT
<213> Homo sapiens

<400> 23
Ala Arg Gly Ile Ile Lys Ile Val His Lys Asn Arg Ala Gln Met Leu
  1   5   10   15

Thr Arg Asp Arg Ala Phe Glu Ser Thr Leu Lys Ser Trp Glu Asp Lys
            20   25   30

Gln Lys Cys Asp Ser Gly Lys Pro Val Leu Arg Thr His Leu Tyr Ile
        35   40   45

His His Ala Ile Asp Leu Ala Thr Glu Glu Val Ser Gln Met Gln Leu
    50   55   60

Cys Ser Gln Ala Ala Glu Glu Leu Ile Thr Arg Ile Cys Asp Ala Ala
65   70   75   80

Thr Ile His Cys Leu Leu Glu Gln Glu Leu Ala His Ala Val Asn Ala
            85   90   95

Cys Ser His Ala Leu Asn Lys Ala Asn Pro Arg Cys Pro Glu Ser Leu
            100   105   110

Thr Arg Asp Thr Ala Thr Glu Ile Ala Ile Asn Val Lys Ala Leu Tyr
        115   120   125

Asn Glu Thr Glu Ser Leu Leu Val Gly Arg Val Pro Leu Gln Leu Glu
    130   135   140

Ser Pro His Glu Glu Arg Val Ser Asn Ala Leu His Ser Val Glu Val
145   150   155   160

Glu Leu Gln Lys Leu Thr Glu Ile Pro Trp Leu Tyr Tyr Ile Leu His
            165   170   175

Pro Asn Glu Asp Glu Glu Pro Pro Met Asp Cys Thr Lys Arg Asn Asn
        180   185   190

Arg Ser Thr Val Phe Arg Ile Val Pro Lys Phe Lys Lys Glu Lys Val
        195   200   205

Gln Lys Gln Lys Thr Ser Ser Gln Pro Gly Ser Gly Asp Thr Glu Ser
    210   215   220

Gly Ser Cys Glu Ala Asn Ser Pro Gly Asn
225   230

<210> 24
<211> 96
<212> PRT
<213> Homo sapiens

<400> 24
Met Ala Glu Val Glu Glu Thr Leu Lys Arg Leu Gln Ser Gln Lys Gly
  1   5   10   15

Val Gln Gly Ile Ile Val Val Asn Thr Glu Gly Ile Pro Ile Lys Ser
            20   25   30

Thr Met Asp Asn Pro Thr Thr Thr Gln Tyr Ala Ser Leu Met His Ser
        35   40   45

Phe Ile Leu Lys Ala Arg Ser Thr Val Arg Asp Ile Asp Pro Gln Asn
    50   55   60

```
Asp Leu Thr Phe Leu Arg Ile Arg Ser Lys Lys Asn Glu Ile Met Val
 65              70              75              80

Ala Pro Asp Lys Asp Tyr Phe Leu Ile Val Ile Gln Asn Pro Thr Glu
             85              90              95
```

<210> 25
<211> 696
<212> PRT
<213> Homo sapiens

<400> 25

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Met Lys Lys Lys Ile Glu Gly Tyr Gln Glu Phe Ser Ala Lys Pro Leu
 1               5              10              15

Ala Ser Arg Val Asp Pro Glu Lys Asp Asn Glu Thr Asp Gln Gly Ser
             20              25              30

Asn Ser Glu Lys Val Ala Glu Glu Ala Gly Glu Lys Gly Pro Thr Pro
         35              40              45

Pro Leu Pro Ser Ala Pro Leu Ala Pro Glu Lys Asp Ser Ala Leu Val
     50              55              60

Pro Gly Ala Ser Lys Gln Pro Leu Thr Ser Pro Ser Ala Leu Val Asp
 65              70              75              80

Ser Lys Gln Glu Ser Lys Leu Cys Cys Phe Thr Glu Ser Pro Glu Ser
             85              90              95

Glu Pro Gln Glu Ala Ser Phe Pro Ser Phe Pro Thr Thr Gln Pro Pro
            100             105             110

Leu Ala Asn Gln Asn Glu Thr Glu Asp Asp Lys Leu Pro Ala Met Ala
            115             120             125

Asp Tyr Ile Ala Asn Cys Thr Val Lys Val Asp Gln Leu Gly Ser Asp
    130             135             140

Asp Ile His Asn Ala Leu Lys Gln Thr Pro Lys Val Leu Val Val Gln
145             150             155             160

Ser Phe Asp Met Phe Lys Asp Lys Asp Leu Thr Gly Pro Met Asn Glu
            165             170             175

Asn His Gly Leu Asn Tyr Thr Pro Leu Leu Tyr Ser Arg Gly Asn Pro
            180             185             190

Gly Ile Met Ser Pro Leu Ala Lys Lys Lys Leu Leu Ser Gln Val Ser
        195             200             205

Gly Ala Ser Leu Ser Ser Ser Tyr Pro Tyr Gly Ser Pro Pro Pro Leu
    210             215             220
```

```
Ile Ser Lys Lys Lys Leu Ile Ala Arg Asp Asp Leu Cys Ser Ser Leu
225             230             235                 240

Ser Gln Thr His His Gly Gln Ser Thr Asp His Met Ala Val Ser Arg
            245             250             255

Pro Ser Val Ile Gln His Val Gln Ser Phe Arg Ser Lys Pro Ser Glu
            260             265             270

Glu Arg Lys Thr Ile Asn Asp Ile Phe Lys His Glu Lys Leu Ser Arg
        275             280             285

Ser Asp Pro His Arg Cys Ser Phe Ser Lys His His Leu Asn Pro Leu
        290             295             300

Ala Asp Ser Tyr Val Leu Lys Gln Glu Ile Gln Glu Gly Lys Asp Lys
305             310             315             320

Leu Leu Glu Lys Arg Ala Leu Pro His Ser His Met Pro Ser Phe Leu
            325             330             335

Ala Asp Phe Tyr Ser Ser Pro His Leu His Ser Leu Tyr Arg His Thr
            340             345             350

Glu His His Leu His Asn Glu Gln Thr Ser Lys Tyr Pro Ser Arg Asp
        355             360             365

Met Tyr Arg Glu Ser Glu Asn Ser Ser Phe Pro Ser His Arg His Gln
    370             375             380

Glu Lys Leu His Val Asn Tyr Leu Thr Ser Leu His Leu Gln Asp Lys
385             390             395             400

Lys Ser Ala Ala Ala Glu Ala Pro Thr Asp Asp Gln Pro Thr Asp Leu
            405             410             415

Ser Leu Pro Lys Asn Pro His Lys Pro Thr Gly Lys Val Leu Gly Leu
            420             425             430

Ala His Ser Thr Thr Gly Pro Gln Glu Ser Lys Gly Ile Ser Gln Phe
        435             440             445

Gln Val Leu Gly Ser Gln Ser Arg Asp Cys His Pro Lys Ala Cys Arg
    450             455             460

Val Ser Pro Met Thr Met Ser Gly Pro Lys Lys Tyr Pro Glu Ser Leu
465             470             475             480

Ser Arg Ser Gly Lys Pro His His Val Arg Leu Glu Asn Phe Arg Lys
            485             490             495

Met Glu Gly Met Val His Pro Ile Leu His Arg Lys Met Ser Pro Gln
            500             505             510

Asn Ile Gly Ala Ala Arg Pro Ile Lys Arg Ser Leu Glu Asp Leu Asp
        515             520             525

Leu Val Ile Ala Gly Lys Lys Ala Arg Ala Val Ser Pro Leu Asp Pro
```

```
             530                      535                      540
Ser Lys Glu Val Ser Gly Lys Glu Lys Ala Ser Glu Gln Glu Ser Glu
545                 550                 555                 560

Gly Ser Lys Ala Ala His Gly Gly His Ser Gly Gly Gly Ser Glu Gly
                565                 570                 575

His Lys Leu Pro Leu Ser Ser Pro Ile Phe Pro Gly Leu Tyr Ser Gly
            580                 585                 590

Ser Leu Cys Asn Ser Gly Leu Asn Ser Arg Leu Pro Ala Gly Tyr Ser
            595                 600                 605

His Ser Leu Gln Tyr Leu Lys Asn Gln Thr Val Leu Ser Pro Leu Met
    610                 615                 620

Gln Pro Leu Ala Phe His Ser Leu Val Met Gln Arg Gly Ile Phe Thr
625                 630                 635                 640

Ser Pro Thr Asn Ser Gln Gln Leu Tyr Arg His Leu Ala Ala Ala Thr
                645                 650                 655

Pro Val Gly Ser Ser Tyr Gly Asp Leu Leu His Asn Ser Ile Tyr Pro
            660                 665                 670

Leu Ala Ala Ile Asn Pro Gln Ala Ala Phe Pro Ser Ser Gln Leu Ser
            675                 680                 685

Ser Val His Pro Ser Thr Lys Leu
    690                 695


<210> 26
<211> 132
<212> PRT
<213> Homo sapiens

<400> 26
His Glu Ile Glu His Gly Glu Phe Glu Lys Asn Leu Tyr Gly Thr Ser
    1               5                   10                  15

Ile Asp Ser Val Arg Gln Val Ile Asn Ser Gly Lys Ile Cys Leu Leu
                20                  25                  30

Ser Leu Arg Thr Gln Ser Leu Lys Thr Leu Arg Asn Ser Asp Leu Lys
            35                  40                  45

Pro Tyr Ile Ile Phe Ile Ala Pro Pro Ser Gln Glu Arg Leu Arg Ala
    50                  55                  60

Leu Leu Ala Lys Glu Gly Lys Asn Pro Lys Pro Glu Glu Leu Arg Glu
65                  70                  75                  80

Ile Ile Glu Lys Thr Arg Glu Met Glu Gln Asn Asn Gly His Tyr Phe
                85                  90                  95

Asp Thr Ala Ile Val Asn Ser Asp Leu Asp Lys Ala Tyr Gln Glu Leu
```

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                    100                    105                    110
        Leu Arg Leu Ile Asn Lys Leu Asp Thr Glu Pro Gln Trp Val Pro Ser
                115                    120                    125

        Thr Trp Leu Arg
                130


        <210> 27
        <211> 95
        <212> PRT
        <213> Homo sapiens

        <400> 27
        Met Leu Ser Ser Gly Thr Val Gly Lys Arg Gln Asn Asn Ser Gln Phe
          1               5                   10                  15

        Gln Val Pro Lys Met Pro Trp Lys Ala Ser Val Glu Gly Thr Arg Thr
                        20                  25                  30

        Asn His Pro Ala Lys Ile Pro Ala Gly Ser Ser Ser Ala Leu Gly Ser
                    35                  40                  45

        Trp Arg His Asp Gly Leu Leu Gln Glu His Thr Glu Lys Ser Thr Gln
                50                  55                  60

        Lys Gly Tyr Phe Gly Glu Ala Val Trp Thr Leu Arg Cys Thr Ala Glu
          65              70                  75                  80

        Gly Glu Leu Gly Asn Pro Arg Pro Glu Val Ser Ile Gly Tyr Phe
                        85                  90                  95


        <210> 28
        <211> 558
        <212> PRT
        <213> Homo sapiens

        <400> 28
        Met Tyr Ser Pro Ile Ile Tyr Gln Ala Leu Cys Glu His Val Gln Thr
          1               5                   10                  15

        Gln Met Ser Leu Met Asn Asp Leu Thr Ser Lys Asn Ile Pro Asn Gly
                        20                  25                  30

        Ile Pro Ala Val Pro Cys His Ala Pro Ser His Ser Glu Ser Gln Ala
                    35                  40                  45

        Thr Pro His Ser Ser Tyr Gly Leu Cys Thr Ser Thr Pro Val Trp Ser
                50                  55                  60

        Leu Gln Arg Pro Pro Cys Pro Pro Lys Val His Ser Glu Val Gln Thr
          65              70                  75                  80

        Asp Gly Asn Ser Gln Phe Ala Ser Gln Gly Lys Thr Val Ser Ala Thr
                        85                  90                  95
```

Cys Thr Asp Val Leu Arg Asn Ser Phe Asn Thr Ser Pro Gly Val Pro
            100   105   110

Cys Ser Leu Pro Lys Thr Asp Ile Ser Ala Ile Pro Thr Leu Gln Gln
            115   120   125

Leu Gly Leu Val Asn Gly Ile Leu Pro Gln Gln Gly Ile His Lys Glu
        130   135   140

Thr Asp Leu Leu Lys Cys Ile Gln Thr Tyr Leu Ser Leu Phe Arg Ser
145   150   155   160

His Gly Lys Glu Thr His Leu Asp Ser Gln Thr His Arg Ser Pro Thr
            165   170   175

Gln Ser Gln Pro Ala Phe Leu Ala Thr Asn Glu Glu Lys Cys Ala Arg
            180   185   190

Glu Gln Ile Arg Glu Ala Thr Ser Glu Arg Lys Asp Leu Asn Ile His
            195   200   205

Val Arg Asp Thr Lys Thr Val Lys Asp Val Gln Lys Ala Lys Asn Val
    210   215   220

Asn Lys Thr Ala Glu Lys Val Arg Ile Ile Lys Tyr Leu Leu Gly Glu
225   230   235   240

Leu Lys Ala Leu Val Ala Glu Gln Glu Asp Ser Glu Ile Gln Arg Leu
            245   250   255

Ile Thr Glu Met Glu Ala Cys Ile Ser Val Leu Pro Thr Val Ser Gly
            260   265   270

Asn Thr Asp Ile Gln Val Glu Ile Ala Leu Ala Met Gln Pro Leu Arg
            275   280   285

Ser Glu Asn Ala Gln Leu Arg Arg Gln Leu Arg Ile Leu Asn Gln Gln
    290   295   300

Leu Arg Glu Gln Gln Lys Thr Gln Lys Pro Ser Gly Ala Val Asp Cys
305   310   315   320

Asn Leu Glu Leu Phe Ser Leu Gln Ser Leu Asn Met Ser Leu Gln Asn
            325   330   335

Gln Leu Glu Glu Ser Leu Lys Ser Gln Glu Leu Leu Gln Ser Lys Asn
            340   345   350

Glu Glu Leu Leu Lys Val Ile Glu Asn Gln Lys Asp Glu Asn Lys Lys
            355   360   365

Phe Ser Ser Ile Phe Lys Asp Lys Asp Gln Thr Ile Leu Glu Asn Lys
    370   375   380

Gln Gln Tyr Asp Ile Glu Ile Thr Arg Ile Lys Ile Glu Leu Glu Glu
385   390   395   400

Ala Leu Val Asn Val Lys Ser Ser Gln Phe Lys Leu Glu Thr Ala Glu

```
                     405                    410                    415

Lys Glu Asn Gln Ile Leu Gly Ile Thr Leu Arg Gln Arg Asp Ala Glu
            420                    425                    430

Val Thr Arg Leu Arg Glu Leu Thr Arg Thr Leu Gln Thr Ser Met Ala
            435                    440                    445

Lys Leu Leu Ser Asp Leu Ser Val Asp Ser Ala Arg Cys Lys Pro Gly
    450                    455                    460

Asn Asn Leu Thr Lys Ser Leu Leu Asn Ile His Asp Lys Gln Leu Gln
465                    470                    475                    480

His Asp Pro Ala Pro Ala His Thr Ser Ile Met Ser Tyr Leu Asn Lys
                485                    490                    495

Leu Glu Thr Asn Tyr Ser Phe Thr His Ser Glu Pro Leu Ser Thr Ile
            500                    505                    510

Lys Asn Glu Glu Thr Ile Glu Pro Asp Lys Thr Tyr Glu Asn Val Leu
            515                    520                    525

Ser Ser Arg Gly Pro Gln Asn Ser Asn Thr Arg Gly Met Glu Glu Ala
    530                    535                    540

Ser Ala Pro Gly Ile Ile Ser Ala Leu Phe Lys Thr Gly Phe
545                    550                    555


<210> 29
<211> 52
<212> PRT
<213> Homo sapiens

<400> 29
Met Thr Asn Pro Phe Leu Ser Ser Val Ser Thr Phe Phe Ser Pro Phe
  1               5                  10                  15

Leu Pro Lys Ala Asn Phe Leu Cys Ser Ala His Arg Asn Ala His Ser
            20                  25                  30

Val Leu Arg Lys Glu Val Leu Cys Asn Ser Lys Ile Ala Ser Lys Ser
            35                  40                  45

Gln Leu Asp Arg
    50
```